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ORIGINAL ARTICLES.

SOME OBSERVATIONS UPON THE AORTA WITH REFERENCE TO ITS SPECIAL FUNCTION AS A FACTOR IN THE NUTRITION OF THE MYOCARDIUM, WITH SUGGESTIONS AS TO TREATMENT.*

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THE contributions to the literature of the lesion designated "segmentation and fragmentation of the myocardium," while definitely demonstrating the retrograde changes that have taken place in the cardiac muscle-cell, are conspicuous for the absence of an attributable cause. It was this fact, as brought forth in the presentation of a classic paper, read before the Pathological Society of Philadelphia quite recently by Prof. Hektoen, that determined me to submit the results of some observations bearing upon the subject and covering a period of several years.

Before submitting the conclusions reached, attention is directed to the peculiarity of the histologic structure of the aorta, which seems to demonstrate anatomically the special quality possessed by this vessel, and almost rendering practicable the claim that it is in reality an especial organ. This quality is *elasticity*. Study of such an artery as the common iliac or femoral, when compared with the vessel under consideration, discloses a marked contrast in the intima and media; that of the aorta possesses no internal elastic lamina, but a layer of fibrous connective tissue immediately under the several layers of endothelial cells. In either of the former vessels, there is a thin subendothelial elastic lamina. The media of the smaller arteries is largely muscular, while that of the aorta is conspicuous for its large proportion of elastic plates and comparative want of muscular element. The propulsion of the blood through the aorta then, is, in addition to the impulse and rate imparted by the heart, supplemented and augmented by this special aortic property of elasticity. Here let us recall the fact that the coronary arteries of the heart are terminal. To make this feature plain, permit the exaggeration of a fact and statement, that each ultimate twig of distribution terminates in an area composed of one or several myocardial cells and, as it does not anastomose, it is the sole source of supply of nutriment for that especial region. The cardiac cell, again, does not receive its pabulum directly from a supply of arterial blood, but, like the cells of the cornea, from an intercellular nutrient fluid, from which each cell, either by imbibition or special metabolic function, appropriates the pabulum essential for its life. These nu-

*Remarks before the Philadelphia County Medical Society May 26, 1897.

trient lacunæ and lymph-channels depend entirely for their supply and renewal of nutrient material upon the *normality* of intracardiac circulation and muscular action. Physiologic research has definitely proved that each cardiac beat is almost entirely dependent upon the complete filling or normal tension of the coronary arteries preceding that particular contraction, and just here is the importance of the aortic elasticity especially to be observed, for upon the force of the recoil of the column of blood in the aorta depends the complete filling of, and therefore normal condition in, the cardiac viscus. Excluding the several diseases, syphilis, arterio-capillary fibrosis, endarteritis, etc., these observations are limited alone to those aortic changes that occur independently of the *materies morbi*, whatever they may be, operative in these affections, and that, so far as known, can only be ascribed to faulty nutrition, and are usually associated with senility. These occur much earlier in life than is usually recognized.

Of course there are acute cases in which similar results are induced through the same channels, as in fever, but of these, nothing at this time will be said.

The point desired to be made is, that *diminution of elasticity of the aorta*, for reasons now obvious, results in diminution of the normality of cardiac contraction and, as a consequence we have those nutritional degenerative changes characterized by cloudy swelling of the myocardium. This is insular or of varying extent, as the degree of subtraction from the normal coronary fulness obtains.

This condition can be recognized clinically and the symptomatology centers around the phenomena of diminished cardiac function. Preternatural rapidity of the pulse-rate and variability of force, as indicated by diminished resistance, are constant phenomena. Dyspnea, varying with the extent of development of the affection, is experienced upon trivial exertion; and the inconveniences of the commonly associated loss of vaso-motor tonus, and the evils of the resultant passive hyperemia, such as digestive disturbances and even impairment of intellection, complete the clinical picture.

Physical examination discloses distant cardiac sounds, with augmentation of the second and also irregular or reduplicated contraction. Arrhythmia is now and again but transiently detected, *i. e.*, while examining the patient there may occur for several successive cycles double systolic action, as though one-half of a ventricle contracted and was rapidly followed by the other, or the right and left acted separately, one immediately after the other.

The treatment consists in the exhibition in full doses and extending over long periods of time, *i. e.*, months and years, of the pure, German digitalin of Merck.

After continuing this for months and years, practically uninterrupted, the nutritional deficiencies not infrequently so improve that the otherwise disabled sufferer is restored to comfort and usefulness. This assertion is based upon fifteen years of observation, during which the facts brought forth have been verified, and many sufferers, years ago becoming disabled from the distresses of failing circulatory power, are to-day, under the proper use of this remedy, leading comfortable and comparatively useful lives.

The dose of this especial derivative of digitalis ranges from gr 1-10 to gr. ss, given from three to six times daily, according to indications.

Microbial Cure for Rabbit Pest.

The use of the microbes of chicken cholera is, according to *Nature*, after all likely to be resorted to in dealing with the rabbit pest in New South Wales. When this plan was originally suggested by Pasteur, reluctance was felt to introduce a new disease into the colony. But the Government bacteriologist has recently shown that chicken cholera does exist both in New South Wales and Queensland, and he described in detail various scientific investigations, the results of which place the matter beyond doubt. Extensive experiments prove the efficacy of this method of destroying rabbits to be very great, and the Government has therefore been recommended to grant permission to persons who suffer from the depredations of the animals to utilise this novel means of suppressing them. It has been calculated that two gallons of broth infected with chicken cholera microbe is sufficient to destroy at least 20,000 rabbits irrespective of infection induced by contagion.

MONSTERS.*

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Monstrum in Latin has its corresponding word in Greek τερας and from the latter we have *teratology*, or the science of monstrosities. But each of these primary words, *monstrum* and τερας points, however, to a super-natural origin. Aristotle called monsters errors of nature; Pliny spoke of them as plays of nature, marvels for us, of which the popular expression not uncommonly used to-day, freaks of nature, seems but an echo. Paré, in the sixteenth century, defined them as "things which appear against the course of nature, and are most frequently the sign of some coming evil."

A few illustrations from history show the common belief in monstrosities being ominous. Tacitus states that in the course of the 49th year B. C., the public mind was occupied with accounts of prodigies which seemed the harbingers of impending calamities. Among these, "In the streets and roads were found exposed several monstrous births with double heads, some of the human species, some of brutes; or were discovered in sacrifices at which custom required beasts that are pregnant." Tacitus said further, that the death of Claudius was heralded by the birth of double monsters. Livy, Y. R. 545, asserts that an infant was born at Frusino, as large as a child four years old, "and not so much an object of wonder from its size as that it was born without any certain mark of distinction whether it was male or female, which was the case two years before at Sinuessa. Aruspices, called in from Etruria, declared this indeed to be a foul and ill-omened prodigy, which ought to be removed out of the Roman territory, and, being kept far from coming in contact with the earth, to be plunged into the deep. They shut it up alive in a chest, and carrying it away, threw it into the sea."

According to Herodotus Xerxes was warned against the invasion of Greece by a prodigy which he could have easily interpreted, a mare giving birth to a hare, for with the swiftness of a hare he would be compelled to return.

Passing a long interval we come to the time of Luther, and he still held the old notion that a monstrosity was ominous, for the birth of a monstrous calf, he asserted, pointed to some important impending event, and he hoped it might be the last day. At about the same time Montaigne, though not reaching the truth, wrote more wisely than the Protestant Reformer, for, after describing "a monstrous child," he said, "Those that we call monsters are not so to God, who sees in the immensity of His work the infinite forms that he has comprehended therein; and it is to be believed that the figure which astonishes us has relation to some other figure of the same kind unknown to man. From his all wisdom nothing but good, common and regular proceeds, but we do not discern the disposition and relation."

That sexual relations between different species of animals resulted in monstrosities was for many centuries a common belief. Dr. Ogle has said§: "That the ostrich is a kind of link, uniting birds and mammals, is not a fancy confined to Aristotle. The vulgar opinion in Arabia still makes it the product of a camel and a bird, as in the days when it got the name, already used for it by Pliny, of Struthiocamelus." Jeremy Taylor had this faith: "For so the wild foragers of Libya, being spent with heat, and dissolved with the too fond kisses of the sun, do melt with their common fires, and die with faintness, and descend with motions slow and unable to the little brook that descends from heaven in the wilderness, and when they drink they return into the vigor of a new life, and contract strange marriages; and the lioness is courted by a panther,

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§ Aristotle on the Parts of Animals. Translated, with Introduction and Notes. By W. OGLE, M.D., etc.

and she listens to his love, and conceives a monster that all men call unnatural, and the daughter of an equivocal passion and a sudden refreshment." Nay, credulity was so great that it was believed some human beings were begotten in bestial relations. Thus Attila was by some declared to have been begotten by a dog. Can we doubt that when Attila brought his immense army to Italy, Romans said *Cur?* There was a Danish‡ king, his body being so thickly covered with hair, that a bear was thought to have been his father.

In the vegetal world deviations from the normal are in many instances so great that they are monstrosities. Some of these are apparently useless, as when a second cone is formed, not at the end of a pine-tree branch, but at the middle. Double flowers also are monstrosities. Such instances are numerous, and beauty is the result, but whether or not the object is designed is doubtful. The different varieties of cabbage that have been developed from the wild plant, among them the cauliflower, illustrate that utility may be the consequence of monstrous development in vegetable life. No one, however, can attribute beauty or utility to any human or animal monstrosity: nay, life itself is impossible for the great majority of grave deviations from the normal among these, and it is true that monsters do not beget monsters.

The transition from monsters in the human, animal, and vegetal worlds, to monsters in character, or in creeds, among human beings is natural. More than one Roman emperor has been called a monster of cruelty, crime, or lust. Voltaire said that there were two monsters that ravaged the world in times of peace; these against them he would fight until he died. Levy wrote: Ingratitude is that which most deeply wounds a noble soul; it is the greatest moral monstrosity of nature. A Roman poet has written: *Ingratum si dixeris, omnia dicis?* And Swift said, None but direct villains are capable of wilful ingratitude. Thus men are justified in pronouncing the ingrate a monster who should at least be sent to Coventry.

I have sometimes thought that the development of moral monsters is much more frequent than the occurrence of physical monstrosities, and that the tendencies of human nature to evil were very great, and just as we read in Plato that it is easier to do harm than good to a man in Athens, so it is to-day almost everywhere. It is a striking fact for those who uphold the intrinsic nobleness of human nature, that the authoritative assertion has been made, you may find ten men who can successfully take the part of Mephistopheles for one who can take that of Parsifal.

The question of the influence of the mother's mind, so-called maternal impressions, in producing human monstrosities is one in regard to which contrary opinions still prevail. Lord Bacon apparently believed it, as he wrote upon the power of the imagination, making the first of the three kinds, "upon the body of the imaginant, including likewise the child in the mother's womb." Faith in such influence lessens as science grows. Why these monstrosities in the animal and in the vegetal worlds? And admitting the existence of mind in animals, why are monstrosities most frequent among domestic animals that have the least mind, the swine?

So too, the cases in which mothers fear their children will be "marked" are so many in which the fear is not realized as to make me skeptical. The difficulty of explaining how a mental impression of the mother can act upon the fetus, without any nerve-pathway for transmission, increases that skepticism. Many of the so-called monstrosities are simply arrests of development, and in inferior existences may be made artificially.

Still there occasionally occur in the human family instances of monstrosity that for the present seem inexplicable without the admission of the hypothesis of "maternal impressions."** It may be, as Tesla has recently shown, that since the transmission of electricity can be made without

‡We know not whether this hairy Dane illustrated the truth of the Latin proverb, *Pilosus aut fortus, aut libidinosus.* Mademoiselle de Lenclos, that wonderful gifted and beautiful Aspasia, of the 16th Century—Mademoiselle was almost the only women whom Queen Christian, of Sweden, called upon when she visited Paris—knew the Latin proverb, and exclaimed one day when in the arms of her lover: "*Ah Monseigneur il faut que vous soyez bien fo·t.*"

**Dr. Creighton (Encyclopaedia Britannica) writes: "Maternal impressions during pregnancy have often been alleged as a cause, and this causation has been discussed at great length by the best authorities. The general opinion seems to be that it is impossible to set aside the influence of subjective states of the mother altogether."

conducting wire, so mental, or nervous influence may pass by hitherto unrecognized media. Still more, the marvelous facts of telepathy, especially as made known by the London Society for Psychical Research, tell us of spiritual forces instantly acting, though sea or continent separate the origin of the power and the place of action. Here are marvels that for the present baffle reason.

Two years ago in crossing the Atlantic, a fellow-passenger, a name well-known in literature, and the son of one of the most distinguished American women, narrated the following incident as having occurred to his mother.†† This lady was unexpectedly called to a distant part of the country, and at the end of her first day's travel, stopped for the night at a hotel in a town in New England which she had never visited, and where she had no acquaintance. Retiring between eleven and twelve, and falling asleep, in a little while she was roused from rest, by the agonizing cry, "O! mother, save me," and by this same cry her sleep was repeatedly interrupted during the night. She was one of the strong-minded of her sex, perfectly free

†† In publishing this incident I omit the names, though giving them in presenting the paper before the Society.

from any superstitious sentiment; but, anxious for an explanation of the strange occurrence, in the morning she asked for the house-keeper. The latter after the incident was narrated, replied: "I am so sorry you were put in that room! It was occupied the previous night by a young man who was dying of delirium tremens, and all night long, his piteous prayer was, O! mother, save me." I have nothing to add to this incident, and cannot tell how this dead man spoke several hours after life had departed. Nor do I know how the mother's mind may act upon the unborn child; nevertheless the possibility of such action I cannot doubt.

Passing from these speculative views, I present two specimens of monstrosities, one human, and the other occurring in the swine. The former is a Cyclop, or a round eye. Taking the description given by Tarnier and Budin, it possibly would be classed as a rhinocephalus, the nasal apparatus not having entirely disappeared, but being represented by a tube inserted at the base of the forehead; but as the most distinctive feature is the single round eye, it seems to be better to call it a cyclop, the name determined by that which is present rather than by that which is absent, or only imperfectly represented. It has been suggested that the origin of belief in the cyclops was from the fact that men among the Pelasgians, working in quarries, carried a lamp upon the forehead, as miners now do, so that they could see in the darkness under ground. We all know Virgil's description of a Cyclopean monster:

Monstrum horrendum, informe, ingens, cui lumen ademptum.

So too, in Homer's *Odyssey*, when Ulysses and his comrades are in the Cave of Polyphemus, the wily leader finds

A tree of stateliest growth, and yet undried,
Green from the wood, of height and bulk so vast,
The largest ship might claim it for a mast,

and has his comrades prepare this, the top cut off, and the "narrower end sharpened to a spire, and hardened by the force of fire," and with the assistance of four of them to plunge, when the giant sleeps, "in the broad orbit of his monstrous eye." But such description and recital seem ludicrous when we look at the diminutive cyclop here presented.

The second specimen is one of a polymelic pig. As will be observed it has eight legs. I am not sure whether this is simply an imperfect double, or a triple monstrosity, the decision resting upon the question as to whether these additional limbs belong to one or two. However, without discussing the point, it is probably better to consider it as simply a polymelic monstrosity.

I cannot refrain from referring to the absurdity of calling a female child, as is frequently done, Amelia, if we have any regard to the etymology of the name. Of course it would be a proper designation for an infant born without upper and lower limbs, but for an infant having these members, it is utterly inappropriate. It might be added that it is probable Isabel should be a forbidden name for a Christian girl, for it seems from Renan's researches the word Jezebel in its proper form is Ysabel, apparently the origin of Isabel.

Want of time has not permitted any reference to giants and pygmies as examples of human monsters.

THE OPTICAL TREATMENT OF VERY HIGH MYOPIA.*

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THE value of the operative treatment of high myopia depends on the insufficiency of other measures. There can be little question as to the seriousness of the condition when not treated by some efficient method. The pictures of the helplessness and unhappy plight of the myope of high degree that have been drawn by the advocates of operative treatment are vivid and perhaps sensational; but they are not false nor materially exaggerated.

*Read before the Philadelphia County Medical Society, June 8, 1897.

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There can be no question but that such a myope needs help; and he is likely to appreciate the restoration of his vision as highly as the patient with cataract. The essential question is, "Cannot this help be given, cannot vision be restored, without removal of the crystalline lens?" In most cases of very high myopia I believe it can.

Treatment by Glasses.—The statements of the more enthusiastic advocates of the operative treatment reveal pretty clearly that they do not know how much relief can be afforded by glasses. Fukala proposes operation for cases of myopia of 13 u. c. and upward; and says he has never seen but one case having very poor vision in which lenses of 18 D. could be worn. I have seen the highest degrees of myopia and the larger number of myopes in dispensary practice; but among one thousand cases in private practice I find the following:

Case I.—Mrs. R., aged 31, very near-sighted from early childhood, wearing right and left—9 D. sph., under a mydriatic was found to require the following:

Right.—14 D.—2.50 cyl., ax. 15°.

Left,—20 D.—2. cyl., ax. 180°.

With these lenses her vision was 4-9 partly in the right eye, and 4-20 in the left. The constant wearing of these glasses entirely relieved her symptoms, which included chronic inflammation of the lids and repeated styes. After four months she had become quite accustomed to them and felt that if her "eyes would only stay as they were" she would be "quite satisfied with her sight."

Case 2.—Miss T., aged 52, a librarian, constantly reading and writing, previously wearing—8 D. sph., was found to require right—15, left.—14 D., giving vision equal to 15-20 partly in each eye. These lenses she wore constantly, except for near work, when lenses 4 D. weaker were employed. Although the wearing of strong lenses was commenced after 50 years of age they soon became entirely satisfactory, and the patient has for three years suffered practically no disability from her high myopia.

Case 3.—Mrs. T., aged 56, with

Right.—13 D. sph.

Left.—13 D. sph.—1 D. cyl., ax. 170°, had vision of 4-9 partly. With the foregoing for distant vision she was given lenses 3 D. weaker for near work. A year later the eyes were well and the glasses satisfactory.

Case 4.—Mrs. K., aged 46, wore with comfort for distant vision:

Right.—16 D. sph.

Left.—17 D. sph, giving vision 4-12 partly, with weaker lenses for near work.

The citation of other cases is unnecessary. I have seen still stronger lenses (in one case 23 D.) used with comfort. Very high myopia is, at least in Philadelphia, so unusual that no one observer is likely to encounter very many cases; but such cases are reported by others. Harlan reports,* two such cases, of especial interest on account of the long time they were under observation. One patient wore—16 D. sph. lenses, giving vision of 20-50, with no increase in myopia or diminution in vision in seventeen years. Another patient wore—14 D. sph., giving vision of 20-50, and at the end of sixteen years had an increase of only 1 D. in the myopia, and no diminution in vision.

It seems to me abundantly established that such strong glasses can be worn, and worn constantly; not only with benefit to vision, but with the greatest possible safety to the eye, and with the best prospect of retaining vision without further deterioration. That the opposite view should be held and advocated may seem strange, yet this error is one that can be readily explained.

Why Correcting Lenses are not Appreciated.—In the first place, such lenses can prove satisfactory only when accurately adapted to the eye. They must be of just the right strength, with the right cylindrical element turned in the proper direction, and so mounted as to reduce to a minimum the unpleasant effects of strong lenses and give the maximum of service.

Again, there has been an unfounded fear that myopia is liable to be increased by *normal* use of the accommodation. That such a fear is not well grounded I have tried to show in a paper read before the American Ophthalmological Society in 1892,† including reports of 27 cases of myopia under observation from three to nine years, while wearing their full correcting lenses. In the discussion of that paper it

* *Transactions of the American Ophthalmological Society* 1892, page 275.

† See *Transactions*, p 359.

came out that the several myopes among the ophthalmologists present were themselves all wearing full correcting lenses without any evidence of harm. That excessive or abnormal accommodation may lead to increase of myopia need not be disputed. The error to which attention is called is the belief that the myopic eye cannot exercise normal accommodation or is injuriously affected by it.

Another error, on which the fear of strong concave lenses is based, lies in the reasoning that, as lenses incompletely correcting myopia often prove very injurious, stronger glasses would necessarily prove more injurious. As I have pointed out in the paper referred to and elsewhere,‡ the incomplete correction of myopia is certain to exert a very harmful influence, which the complete correction never exerts. The incompleteness of the partial correction is partly overcome by looking obliquely through the lenses; and thus increasing their effect. If the correction is incomplete the myope can thus improve his distant vision but only by introducing an astigmatic effect that is altogether harmful. With glasses that do not quite correct his myopia, the myope has the constant temptation to look obliquely, so as to see more clearly; and he does so at the cost of very serious eye-strain.

The complete correction of myopia on the other hand, gives the best vision of which the eye is capable when the glass is in its proper position, and the visual axis perpendicular to it. Any departure from this relation of the visual axis to the lens makes vision worse, so that with the full correcting lens the myope has every inducement to use his lenses properly. As a matter of fact, the disastrous increase of myopia so often noted with incomplete correcting lenses does not occur when the full correction is worn.

Still another cause for the impression that high myopia cannot be relieved by glasses is found in the difficulty of becoming accustomed to such glasses. Correcting lenses are never fully satisfactory when first worn. Only incomplete corrections are the best at the start. The difficulty of becoming accustomed to correcting lenses increases with the age at which one begins wearing them, and is in some measure proportionate to the strength of the lenses. Very high myopia is usually found in adults, often in those who have reached or passed middle life. Hence, correcting lenses for high myopia usually entail much difficulty when first worn, and some time must elapse before their beneficial effects are manifest. The patient who has not enough faith in his medical adviser to overcome this first difficulty, as well as the ophthalmologist who has not enough confidence in his own work to withstand the first impression of the patient, is therefore, pretty certain to condemn the correcting lenses for very high myopia. Like other good things their benefits cost something, and those who will not pay the price, will not suffer temporary annoyance, cannot secure them.

The foregoing cases give my experience with three older patients, and I have not yet encountered a patient under 40 years of age who was not able ultimately to wear with comfort his or her correcting lenses, if a fair effort was made to do so. The inconvenience encountered in becoming accustomed to such lenses seems to me, and to most patients, trifling, as compared with the risk, loss of time, and difficulty attending removal of the crystalline lens.

Cases for Operation.—For the mass of cases of even very high myopia, therefore, I believe that operative treatment should not be considered. Still, this probably has a certain limited field of usefulness. In the first place there are cases of high myopia in one eye, with the other eye slightly myopic or even hyperopic. Patients thus affected can never get binocular vision through a lens correcting the monocular myopia. The usefulness of the defective eye, and the chance of some binocular vision, will be greatly improved by removing the crystalline lens from the myopic eye. The difficulty in applying the method to cases presenting such a condition is that the patients, having good vision in one eye, do not care to undergo the trouble and expense of having the defective eye operated upon.

Secondly, in cases of high myopia with slight opacity of the crystalline lens it has seemed to me proper to remove the lens, when if the refraction had been more

‡ *Journal of the American Medical Association*, November 19, 1887.

nearly emmetropic the condition of the lens would not have justified operative interference. Such cases I have treated by the usual method for extraction of unripe cataract, with or without previous massage of the lens, rather than by the plan indicated by Fukala.

Finally, there are some cases of very high myopia among the illiterate workers at coarse kinds of manual labor, who will not wear glasses; who would find glasses an inconvenience and serious expense; and yet who are practically blind for much of the class of labor that they are otherwise able to perform. For these the extraction of the lens seems to me a perfectly proper procedure and one to be distinctly advised, especially as the degree of vision afforded by the operation will serve their purpose without their having to still use the glasses that would be required by those needing more accurate vision.

Risk of Operation.—I cannot believe that the removal of the clear lens from the myopic eye is so free from danger or promises such immunity from further degenerative change within the eye as some of its enthusiastic European advocates claim. The extraction of unripe cataract, and the extraction of cataract from highly myopic eyes are operations familiar to ophthalmic surgeons the world over. They have a record running back long before Beer's proposition was made in 1817, or systematically acted on by Fulkala in 1887; and it is universally agreed that they are not without risk. The extraction of unripe cataract is not under any circumstances perfectly safe, and is probably attended with a little higher risk than the extraction of mature cataract. The prognosis for highly myopic eyes is never so good as for eyes not myopic before they become cataractous. In the face of this general experience of the profession the claim that the removal of the clear lens is entirely without risk in cases of very high myopia seems like a pretty clear case of zeal outrunning judgment.

I have now a case at Wills' Hospital in which the lens was extracted for myopia nearly two months ago. The eye has been continuously irritated, or the seat of a low grade of irido-choroiditis, with development of additional vitreous opacities up to the present time; and vision is now but slightly better than it was before the extraction of the lens, and not nearly so good as correcting lenses gave before operation. It is not unlikely that this eye will continue to improve until it gets useful vision; but evidently the risk of operation is not so slight a matter as some writers attempt to make it. Indeed, the statement that six or eight weeks are required for the treatment before the eye returns to its normal condition indicates strongly that such a course of protracted inflammation, attended perhaps, as in this case, by increased opacity of the vitreous, is not a rare occurrence.

Subsequent Decrease of Myopia.—Some of the reports speak of decrease in the degree of myopia occurring subsequently to the removal of the lens.—a progressive decrease, which they are inclined to ascribe to some mysterious influence of the operation upon the nutrition of the eye-ball. Such a change of refraction is to be noted after the extraction of cataract or other extensive section of the cornea. It depends on post-operative changes in the curvature of the cornea, and return of the cornea to its normal position, as the corneal wound becomes consolidated and the eye-ball assumes its normal shape. Thus, in one of my recent cases of cataract-extraction the first trial with lenses two weeks after the operation showed the refraction to be corrected by:

+3.50. sph. +11. cyl., ax. 30°. V.= 5-15.

One month later the same required:

+10. sph. +6. cyl., ax. 25°. V.=5-10 partly.

Such an increase of hyperopia is the almost universal rule after cataract-extraction, and the change may go on for many months. Its equivalent, the diminution of myopia when the eye is highly myopic before the lens was removed, is only what would naturally be expected from any operation involving a considerable section of the cornea; and while it is not impossible that the removal of the lens may improve the nutrition of the highly myopic eye-ball, such observations do not at all prove it.

Conclusions.—It is likely that the operation of removal of the crystalline lens for high myopia, has a proper place and will sometimes prove of decided service. It is almost certain, that, like other operations,

it will make the best statistical showing when performed in cases that could be better treated by less severe methods; and that when confined to the cases that are not amenable to correction by lenses, its field of usefulness will be small and the success to be achieved with it not very brilliant.

For the mass of cases of very high myopia the treatment will continue to consist in correcting lenses, particular supervision of the amount and conditions of near work, and the use of appropriate remedies for the diseased conditions of the posterior coats of the eye that complicate high myopia and favor its increase. For a few cases, Fukala's operation is a positive addition to our therapeutic resources.

The great thing to do for very high myopia is to prevent its development by the proper management of myopia of lower degrees.

THE PROPOSED OPERATIVE TREATMENT OF HIGH MYOPIA.*

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WITHIN the past few years operation for the relief of myopia of high degree has gained extraordinary headway upon the continent of Europe. The procedure consists in removal or destruction of the crystalline lens, and appears to have been accepted with enthusiasm by the most eminent oculists. Thus Prof. Vossius declares that the operation is to be placed upon the same plane as that of iridectomy for glaucoma. Prof. Cohen of Breslau ascribes a more beneficent effect to this procedure than to the operation for cataract, for the former, he states, gives the blessing of sight to the young who have never enjoyed it, while the latter restores it to the aged who have the memory of their former power and who will live to enjoy the same, as a rule, for but a limited time.

The introducer or reviver of the operation is Dr. Fukala, now of Vienna. In myopia the images of distant objects are formed not upon the retina but in front of that membrane in the vitreous humor, owing to increased length of the eye-ball. This condition is irremediable; it can in a measure be compensated for by displacing the focus further backward so as to bring the images upon the retina. This can be effected either by a concave lens or, by what amounts to the same thing optically, the removal of the natural biconvex lens of the eye.

Fukala and his followers assert that while it is possible theoretically to correct high myopia by lenses, like other anomalies of refraction, the glasses cannot be worn. Patients thus treated, he states, are unanimous in declaring that they cannot bear correcting lenses on account of the resulting vertigo, headache and uncertainty of movement. Concave lenses of high degree possess certain baleful properties which are irremediable. These are principally apparent diminution in the size of objects, and false projection, causing them to appear to be more distant than they really are. For these reasons patients prefer the imperfect vision of the naked eye to the discomfort produced by their glasses. This is the major premise of the argument and the fate of the operation will largely depend upon its acceptance or rejection. Fukala himself admits that if correction by lenses were possible the need of operative interference would vanish.

It is of interest to note that increased length of the eye-ball was recognized as the cause of myopia before the year 1700 by Boerhaave and demonstrated anatomically by Morgagni. Richter. a century later, and not Beer as is usually stated, was the first to propose extraction or couching of the lens for the relief of this condition. Subsequently attempts at cure were made by an orthopedic apparatus (myopodiorthotikon), by convex lenses, by concave lenses of decreasing strength, by magnetism and by division of the external muscles of the eye-ball; and favorable results were reported from each and all of these irrational procedures.

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* Read before the Philadelphia County Medical Society, June 9, 1897.

† Professor of Diseases of the Eye, Philadelphia Polyclinic; Assistant Surgeon, Wills Eye Hospital.

In 1858 Mooren, at the Heidelberg Congress, broached the question of extraction of the transparent lens for high myopia. The proposition was received unfavorably, being opposed vigorously by the two great leaders of ophthalmology, Graefe and Donders—by Graefe especially on the ground that posterior scleroticochoroiditis being the cause of the malady, the operation would be incapable of staying the progress of the disease, not to mention its dangers. Donders stigmatized the suggestion as most unwarrantable. In his opinion the resulting aphakia would entail no decided advantage and, furthermore, the accommodation would of course be sacrificed. Much has been made of this latter point and the loss of the accommodation has been loudly deplored. This objection appears to be the only one that the introducer of the operation thinks it worth while to meet. He argues correctly that the function is of no value to the shortsighted eye without a lens, being indeed under these circumstances a disadvantage, for the effect of it is to bring the working point, already too near the eye, still closer, and thus prove an active cause in furthering the progress of the myopia. All this is undoubtedly correct. But how does the case stand when the myopia is corrected by a lens? The advocates of the operation dismiss the question with the statement that under no circumstances dare a myope of high degree attempt near work with correcting lenses which compel the use of the accommodation as in emmetropia. This assertion, which is the minor premise of the proposition, is, to say the least, open to question.

Whatever may be thought of the operation and what its ultimate fate may be, the experience of those who have practised it has brought to light some interesting and unlooked-for facts. Among these is the knowledge that the loss of physiologic accommodation is not equivalent to entire inability to accomplish near work without a glass; a substitute for this function is furnished by the improved optic conditions of the aphakic eye as compared with the disadvantages inherent in the highly myopic eye (without a correcting lens). Numerous cases are adduced in which a considerable range of accommodation, or rather ability to distinguish near objects at varying distance with the same glass, was present after operation, thus in one case:

M. 13 D. before operation, with + 8 Jaeger's No. 7 was read at 12—54 cm.
M. 18 D. before operation, with + 4 Jaeger's No. 7 was read at 12—75 cm.
M. 17 D. before operation, with + 4 Jaeger's No. 7 was read at 15—39 cm.
M. 16 D. before operation, with + 4 Jaeger's No. 7 was read at 18—49 cm.
M. 16 D. before operation, with + 6 Jaeger's No. 7 was read at 35—50 cm.

Another circumstance brought to light by these operations has been the extraordinary diminution of refraction following the removal of the crystalline lens. Whereas the emmetropic eye after extraction of cataract is left hyperopic 10 or 11 D. it was naturally to be expected that removal of the clear lens in myopia would bring about a similar diminution in the refraction. This however is not the case; 15 or 16 D. is the rule. In none has it been found to be as small as 10 D. In one case a diminution of 44 D. is reported. This seems to prove that besides increase in length of the axis another factor comes into account in these high myopias, namely, increased curvature of the crystalline lens. This has actually been found to be the case, as shown by examination of the lens after removal. In other cases the lens was found to be actually less curved than normally. It seems justifiable therefore to classify high myopia into (1) pure axial myopia; (2) axial and lens myopia; (3) pure lens myopia. This classification will explain the extraordinary variation in the degree of diminution obtained in different eyes by the removal of the lens.

Some of the indications and counter-indications of the operation follow: Age does not appear to be much of a factor one way or the other; successful results have been reported up to the age of 64; although the younger the subject, other things being equal, the better the outlook. Von Hippel and Sattler have made the important observation that the lens does not undergo sclerosis in high myopia. The visual acuity should at least equal 0.1. Jaeger No. 1—certainly No. 2—should be read fluently. When these conditions are not fulfilled not much is to be expected from the operation.

Complications on the part of the choroid are not to be regarded as counter-indications, provided they are not of high degree. In the latter case hemorrhage or possibly even detachment of the retina may occur. But even when the choroid has suffered seriously, inasmuch as the operation is the only measure that promises anything, it may be justifiable to assume the risk.

Both eyes are to be operated upon.

The operation itself consists of two stages: (1) extensive discission, (2) extraction of the disintegrated lens. The usual rules of asepsis being observed and the eye cocainized, a narrow Graefe knife is carried through the margin of the cornea and made to penetrate the lens deeply, which is then to be divided primarily in its center by several (three or four) cuts; if necessary the knife may be entered a second time at the same sitting in order to divide the lens thoroughly by crucial incisions. The patient is to remain in bed the first day. Spasm of the sphincter of the pupil occasionally occurs in spite of atropin; but it readily yields to cold applications. The second part of the operation consists in extraction of the lens masses. After discission of the lens, which may have to be repeated two or even three times, sooner or later (often upon the next day) a separation of its substance takes place and this shortly degenerates into a thickish fluid mass. This fills the anterior chamber, covering the iris. Simultaneously subjective and objective symptoms of irritation arise, which if persistent may lead to loss of the eye from inflammation and increased tension. The subjective symptoms consist of pain in the eye, in the brow along the course of the branches of the fifth nerve, and photophobia, so that the eye cannot be opened. Upon palpation the patients experience a peculiar sensation of pressure and characteristic pain. There is considerable conjunctival and ciliary injection, with lachrymation. The surface of the cornea is lusterless. The tension under these circumstances is always increased. In this condition no time is to be lost; the masses must be extracted at once. The operation is usually performed with a keratome, though a knife may be employed. The incision is to be made at a short distance from the sclero-corneal junction, to avoid prolapse or incarceration of the iris. It may have to be repeated two or three times. It is recommended that the incision in the cornea be made at right angles to the meridian of greatest curvature, previously determined by the ophthalmometer. Cocain-anesthesia usually suffices. In children or nervous subjects and when there is great photophobia general anesthesia is preferable. The treatment covers a period of from three to six weeks. During this time the patients, when necessary, may follow some light occupation or attend school. Physical exertion is to be avoided, from risk of detachment of the retina. Iridectomy is omitted except in the case of older subjects.

The advantages claimed for the operation are: (1) Clear distant vision without a lens. (2) Improvement in the visual acuity. The latter is often very great; nine-fold has been noted. It sometimes does not take place until after the lapse of many months. This result is probably to be ascribed to improvement in the function of the retina in consequence of experience in accurate vision which it had never before enjoyed. (3) Restoration of binocular vision through recession of the far point. (4) Decided diminution in the refraction of the eye. (5) Cessation of the progress of the myopia.

Up to the present time more than one thousand operations have been performed and statistics published. Those who have had experience with procedure are enthusiastic in commending it.

I have had no personal experience with the operation, but have had the opportunity of following a single case in the practice of another gentleman; and the course of this one at least demonstrated that the operation is not so free from risk as the advocates of it claim. The experience of the oculists of this city will, I believe, agree with mine that it is not true that all myopes of high degree are unable to wear correcting lenses. It is altogether probable that those who make this assertion have never given that method a fair trial. Many cases could be adduced in which the subjects were very comfortable with their glasses, and would have little or nothing to gain from removal of their crystalline lens. It is undoubtedly true that to some concave

lenses are a troublesome burden and these may be fit cases for the operation, but they constitute a small minority. Many others require a different arrangement for near and distant vision; these may be supplied with bifocal glasses, or with two pairs, or perhaps with extra glasses to be added either to their distance ones for near or to their near for distance, but some plan can almost always be devised.

To correct these cases properly a reliable objective test of the refraction is indispensable in very many instances; the visual acuity is so low that the subjective method alone will often fail to lead to the proper combination of sphere and cylinder, for most of these myopias are complicated with astigmatism, and failure to correct this properly naturally means dissatisfaction with the glasses. So far as concerns the benefits claimed for the operation, these are also to be derived from correcting lenses. Cessation of increase of myopia, recession of the working point, clearer distant vision, restoration of binocular vision, when possible, all these advantages are to be expected from proper correcting lenses.

CURRENT LITERATURE CONDENSED.

Medical Education.[1]

Many persons are convinced that only a classic training in the university colleges can properly fit a man for the study of medicine. Now we are told by the deans of some of these colleges, that their system of training is very imperfect and crude in its methods; also that they are anxiously looking around for improvements and trying to break away from the prestige and old-time forms of teaching.

There is something very refreshing in this awakening of educators in the higher centers of learning. The dogmatic egotism which has centered around some of the great universities of this country is lifting and we begin to realize that educational methods in its highest forms are still very crude. While medical training and the standards of medical colleges are very far from the ideals which have been marked out, there is a restless movement and struggle upward which promises much for the future.

The medical men who urge so strenuously that a classic training in a literary college is an absolute essential as a foundation for a medical training are very often good examples of the folly of such training. Men with literary degrees from the best colleges are very often poor, weak medical men. The prize and honor men of the great literary colleges are rarely heard of in after-life in any department of human activity. Literally the high classic training demanded as a requisite to enter upon the study of medicine is often a most serious obstacle to all future success. The fault is in the college methods, which have literally unfitted the man for close, hard work and broad reasoning. They have cultivated a strong personal bias in his capacity and superiority that is fatal to good work afterward. Fortunately this does not occur in all cases. Many college graduates rise above the narrowness of so-called culture and make a culture and acquire an independent knowledge for themselves.

We do not wish to discourage a thorough preliminary training before entering upon the study of medicine; but the idea that a degree from any college is evidence of such training is not true in many cases. While the medical colleges are extending their courses and requiring more thorough preparation before entering, they can not reach the end sought for in a thoroughly educated profession by accepting the diplomas of colleges without question or examination. While we all recognize that graduates of the leading medical colleges may be very scantily equipped for the practice of medicine, it is a notorious fact that men with diplomas from the most famous institutions in this country are often very weak and uncultured. This is true the world over, the English or German student who has spent ten or more years at the great seats of learning may not have acquired the first principles of culture.

1 Editorial in the *Journal of the American Medical Association.*

The idea can not be repeated too often, that no training can make a medical man who has not some constitutional adaptability and tact for the work. No colleges can graduate educated, cultivated men by the present indiscriminate methods applied to all, without regard to ability or personality. What will be required in the future will be some test of the character and capacity of the student for the life-work he would engage in; then training becomes exact and development and culture positive and certain.

Cerebellar Functions.[2]

In a recent number of the Proceedings of the Royal Society a preliminary account appears of some interesting experiments by Dr. Max Löwenthal and Mr. Victor Horsley on the relations between the cerebellar and other centres, especially with reference to the action of antagonistic muscles. These experiments were undertaken because of an observation that when both cerebral hemispheres were removed, and as a result active extension tonus of the limbs was obtained; faradaic excitation of the upper surface of the cerebellum caused immediate relaxation of such tonus so long as the current was applied, but as soon as the latter was shut off the tonus was immediately re-established. Such an observation indicating, as it did, a distinct connexion between the cerebellum and the lower centres, made careful examination necessary, and it was found that such an effect was constant provided the tonus was well established, and the effect was not merely an actual relaxation of the triceps, but also a marked contraction of the biceps.

Experiments were arranged in which the effect could be graphically recorded, and in the dog and cat it was found that excitation of the left motor cortex and of the left corona radiata produced invariably symmetrical and synchronous contraction of the prepared muscles, biceps and triceps of the right side. Excitation of the crista on the cut surface before the general tonus was established produced invariably contraction of both biceps and triceps; excitation after it was established, of the left crista produced in thirteen cases contraction of the biceps and contraction of the triceps, in two contraction of the biceps and relaxation of the triceps, and in one relaxation of the biceps and contraction of the triceps. Excitation of the cerebellum produced very constant effects. After the tonus established by removal of the cerebellar hemispheres was present excitation of the cerebellum caused a striking and active relaxation of the triceps and an active contraction of the biceps on the same side as that stimulated.

In twenty-nine experiments it was found that the muscles of the right arm could be influenced by excitation of both halves of the cerebellum, but the effect was greater on the same side as that stimulated. In five experiments excitation of the left half of the cerebellum evoked relaxation of the biceps on the opposite side. When the tonus produced by removing the cerebral hemispheres was not yet established excitation of the surface of the cerebellum constantly produced atonic contraction of either the triceps or biceps, or of both together. Synchronous excitation of the cerebral area for the forelimb and of the cerebellar focus produced, in cases in which the cerebellum is definitely excitable, an addition to the tonus previously elicited from the cortex cerebri. The inquiry is very interesting, and seems likely to throw light upon some of the functions of the cerebellum hitherto so obscure.

The Relative Advantages of Forceps and Version in Modern Pelvic Contraction.[3]

In a discussion upon this subject at the recent meeting of the British Medical Association, reported by Doctor Milne Murray, of Edinburg, the doctor stated that, by the use of forceps, intrauterine manipulation is avoided, and also the dangers of compression of the cord and traction on the neck, to which the child is exposed after the performance of podalic version.

In cases of flat pelvis, the difficulty of delivering the head through a flattened brim, by means of long forceps, was that they did not enable traction to be made in the axis of the inlet. By the use of axis traction forceps this difficulty is over-

[2] The London *Lancet.*

[3] *American Medico-Surgical Bulletin.*

come, the line of traction being made to coincide with the axis of the inlet, and the angle of error is thus abolished; with such an instrument he has delivered, on several occasions, living children through a conjugate of three and one-quarter inches. A pair of forceps made to coincide with the curve of the normal pelvis, is not quite suited for cases in which the pelvis is flattened. Furthermore, any case in which turning is indicated can be more safely dealt with by means of axis-traction forceps.

Diarrheas of Children.[4]

The enormous mortality amongst children from diarrhœa, and its extreme frequency, should, he remarked, stimulate inquiries in this direction. Among the points touched on by the author were—the difference in the digestive juices in the child as compared with adults, the digestion of milk by infants in the intestine, the inability of young children to digest starch, the large class of cases of diarrhea that are *dyspeptic*, and the second great division of infantile diarrheas which may be termed *infective*. The first may be acute or chronic, and the second may be mild or violent. Thus four sub-cases exist altogether:—I. "Dyspeptic": 1, simple diarrhea; 2, chronic diarrhea. II. "Infective": 1, Summer diarrhea; 2, cholera infantum. Obscure anatomical or pathological names have, he said, no foundation—in fact, no reality—in the post-mortem room. Such names as enterocolitis, catarrhal enteritis, muco-enteritis, gastro-intestinal catarrh were misleading, and could not be borne out by facts. There is, moreover, no sharp line of demarcation between these several forms, as they are extreme types, and numerous intermediate grades of severity are met with; but these are the main varieties to be recognized. Dr. Symes considered in the absence of any antitoxin or specific remedy for the infective forms that almost all cases can be managed under the following indications, varied as the case demands; but unfortunately in the severe infective diarrhea these do not avail much, as cholera infantum still is the most fatal morm of diarrhea known: —1. General management. 2. Removal of irritating particles from the bowel. 3. Diet. 4. Antiseptics to arrest fermentation. 5. Irrigation of the bowel. 6. Sedatives to allay peristalsis. 7. Restoratives in case of collapse. The prevention of all these diarrheas can be reduced to three lines of action:—1. Scientific regulation of artificial feeding. 2. Purification of the ground. 3. Purification of milk.

[4] Langford Simes in *Medical Press and Circular.*

The Use of Opium in the Diarrheal Diseases of Children.[5]

In no other condition is so much discrimination demanded in prescribing opium as in the diarrheal diseases of infants and young children. Much opposition to its use has been elicited during recent years, and many practitioners have discarded it entirely. Much of this opposition is, unquestionably, well founded. While its improper use may do great harm, when properly used, it is an agent too potent for good to be wholly abandoned. We had occasion some time since to present in brief form its indications and contra-indications in diarrhea as follows:

It is contra-indicated—1, in the first stages of acute diarrhea, before the intestinal canal has been freed from decomposing matter; 2, when the passages are infrequent and of bad odor; 3, where there is a high temperature or cerebral symptoms are present; 4, when its use is followed by elevation of temperature or the passages become more offensive—symptoms which indicate tonic infection from putrefying intestinal contents.

It is indicated—1, when the passages are frequent, with pain; 2, when the passages are large and watery; 3, in dysenteric diarrhea, together with castor oil or a saline; 4, in late stages, with small, frequent, nagging passages; 5, when the passages consist largely of undigested food, and the bowels act as soon as food is taken into the stomach.

The most important contra-indications are admirably described by Dr. Miller. In the cases he reports, the dangerous symptoms were, no doubt, due to the absorption of tonic principles generated in the intestinal canal. The locking up of such putrefying matter by the use of opium violated every right principle of practice.

[5] Editorial in *Pediatrics.*

Diarrhea would have been a conservative process, and frequent movements should have been encouraged. He clearly shows the reason for possible bad results in the following sentence: "Opium arrests the intestinal movements, and prevents the elimination of these toxic materials, and may give rise to grave symptoms of intoxication and sepsis."

The dose should be as small as possible, sufficient being given to relieve pain and check peristalsis. It should not be added to the ordinary diarrhea mixture, to be repeated at short intervals. It should be given alone, and at intervals sufficient to allow the effect of one dose to partially subside before another is given. This interval will be rarely less than four hours.

Bromoform Poisoning in a Case of Pertussis in an Infant.*

S. B., 2½ years old, was seen by me in the children's department of the German Poliklinik, Nov. 4, 1896, with the following history:

The child has been coughing some time; the cough appears to be very painful, for the child always cries after each attack; the attacks are very violent and usually end in vomiting. The face during the attack is very red, or bluish red; these attacks are more frequent, and also more violent during the night, and the mother believes that the child coughs less in the open air when going through the street. Excepting a slight attack of summer complaint, there has been no previous illness. The child was nursed at the breast, and there is nothing abnormal visible.

General Inspection.—The head is square; fontanelle closed; no evidence of cranio-tabes; the eyes bulge slightly; exophthalmus; a slight œdema of the eyelids; face looks puffy; color of the skin looks greyish; the tongue is slightly furred; throat shows a very reddened congestion of pharynx, left tonsil is enlarged; right tonsil also, and the uvula is elongated; submaxillary glands enlarged; epistaxis has existed after a very violent coughing paroxysm; the nose presents nothing abnormal, *i. e.*, polypi which might be held directly accountable for this condition. Dentition has been quite regular; a few carious teeth exist. The examination of thorax and abdomen shows the lungs quite normal, some moist crepitant râles heard at the apices of both right and left lungs, also loud sonorous râles. Pulse is accelerated, fairly good and regular; the temp. was 99 degrees F. in the rectum; respiration did not appear to be abnormal.

The diagnosis of pertussis and bronchitis in a rachitic child was made. I prescribed bromoform, and it was given in a solution containing:

Bromoform	gtt. xl.
Syr. cort. aurant.	30.0
Alcohol	10.0
Aqua q. s. ad	60.0
M.	

The child was ordered a teaspoonful of this mixture every hour. The medicine was given regularly, and a few days later he was brought to me in the dispensary in a condition of stupor. The child could not be roused, the pulse was soft, intermittent, about 120 in a minute, the upper extremities were warm, the lower extremities were cold, face and ears were covered with an erythematous eruption, the corneal reflexes were partially absent, and the pupils did not re-act; the temp. in the rectum was 99 degrees F.

The child was in a condition of the deepest narcosis; the respiration was slow; slight snoring was audible. The child was given continued hypodermic stimulation by Dr. Emil Joel and Dr. Kahn, who also faithfully performed artificial respiration; the child was given mustard footbath and faradization, and also coffee and brandy per mouth; the child was reported well the following day.

Quantity of Bromoform.—As the specific gravity of bromoform is greater than that of the other ingredients in the mixture, it naturally sinks to the bottom of the bottle, and the mixture, in order that it be properly given, should have been thoroughly shaken before administering it. This not having been done, the bromoform precipitated, and must have been given in one dose in the last teaspoonful contained in the bottle, and the child must have received nearly all of the 40 drops at one time. I have used bromoform since 1890, and this is the first case

* Louis Fischer, M.D., in *American Journal of Gynecology and Pediatrics.*

of bromoform toxæmia that I have seen. It impressed upon me the importance of prescribing this drug in its pure form, without the addition of any diluent. I usually order it in a dark bottle to protect it from the light, and well stoppered, preferable a glass-stoppered bottle. The child recovered.

The Imbecile Question.*

About three years ago eleven boys were castrated at the Winfield (Kansas) imbecile asylum. One year later twelve more were castrated. The report of the superintendent of the asylum for that year, 1894, is self-explanatory, and is as follows:

"The most aggravating and difficult condition which has confronted the management of the institution was the number of inmates who were confirmed masturbators. Having exhausted 'moral suasion' and every other device known to prevent or cure this horrible practice, I called in consultation three of the most eminent and learned physicians and surgeons in the vicinity, and after a thorough examination and careful study of each person so afflicted, we decided that a surgical operation was the only means by which a cure could be effected. Accordingly, one of the most debased victims of that habit was operated upon. The boy did not seem to suffer any from the after effect, but as a precautionary measure he was kept in bed seven days, and during that time he did not miss a meal. A marked improvement, both mentally and physically, was the result. After three week's time he was sent home, and I learned through a letter from his father that he was making a full hand on the farm. After about one month's time we operated on three more boys, with the same results, and after about one month from the time of operating on the last ones, we operated on seven more, making in all eleven cases, with a very marked improvement in nine of them mentally, and all of them physically. The nine are improved to the extent that we have transferred them to the kindergarten class, where they are making very satisfactory progress. Five parents have visited the institution since those operations were performed, and after observing the marked improvement in the boys above mentioned, gave me a written request to operate on their boys at my earliest convenience. I believe every parent in the State who has children here, after examining into the condition of the boys operated on, and seeing the improvement in their condition, would have the same treatment applied to their boys."

Since the above report has been made twelve more boys have been operated on, and they have all been benefited mentally, physically and morally. We have made diligent inquiry of physicians living in the vicinity of Winfield as to the facts in the case of these boys, and find that the superintendent's claims are true. The time has come when the physician must make himself heard and his influence felt in showing the people the "way out" of this burdensome dilemma.

All over the land we find men and women devoting their time, labor and money to looking after, caring for and trying to make these unfortunates comfortable and happy. This is commendable, praiseworthy and the noblest Christianity. The condition of these unfortunates appeals to the sympathy of man; it touches the tender cords of pity, kindness and love, the nobler attributes of human nature. These philanthropists deserve the highest praise for their work and the assistance of the people at large and the government and State.

But these unfortunates are increasing. Within a few years their number will be so great that it will become a burden to the State. By unfortunates now we mean not only the imbecile and demented youth, but the insane and the confirmed criminal classes. Statesmen and philanthropists have, in a measure, devised plans and provided means for these classes of people, but it cannot be done much longer without becoming a burden of great magnitude, and especially so when the number increases from year to year. The questions suggested by the facts as set forth in the foregoing are: first, what is the cause of the present condition of these people; second, how best to deal with this class; third, how to prevent its increase; fourth, whose duty is it to care for them and prevent their increase; fifth, how can this be brought about?

* Editorial in *Kansas Medical Journal*

TRANSLATIONS.*

Treatment of Pityriasis Capitis.

When not complicating such serious systemic disease as typhoid fever pityriasis capitis is very intractable (Dr. Gaucher, *Deutch. Med. Zeit.* p. 321, 1897,). Nothing definite is established regarding its etiology. Some authors consider it an arthritic manifestation while others ascribe it to parasitic action. Treatment must be general and local. Hygienic livng and partial milk diet are important. Locally, cleanliness is first to be considered and consists in keeping the hair cut very short; washing the head once weekly with tepid water and tar soap, and every other day with a five or ten per cent. sodium bicarbonate solution or the following:

℞.—Sodii biborat..... 3iss.
Æth. sulf.....f℥iss.
Aq. destil. q. s.....f℥viii.

When all the scales are removed there is applied to the scalp an ointment containing sulfur ℈j to petrolatum ℥j, or powder with sulfur ℈ij to talcum ℥iij. If seborrhea exists use

℞.—Sulfur .....3iss.
Alcohol .....f℥iii.
Aquae .....f℥viii.

If there is much itching

℞.—Hydrarg. chlor. cor.....gr.iii.
Chloral hydrat.....3i.
Alcohol .....f℥vi..

To be rubbed on scalp. This treatment must be continued for many months or even years.

Eczema of the Eyelids.

Prof. H. Leloir-Lille (*Journ. des Malad. Cut. et Syph.*) describes four stages of seborrheic eczema of the eyelids. In the first small scales are formed like those in pityriasis capitis. There is slight itching and a stinging sensation. In the second stage, redness and lachrymation exist. Instead of scales, crusts are formed which cover superficial excoriations, and the cilia are more or less glued together. Frequently pustules are seen at the palpebral rim. The eyelashes fall out but are soon restored. The third stage is marked by intense inflammation and deep redness of both lids, especially the lower. The eyelashes are only imperfectly restored. In the fourth, the eyelids are thickened and indurated. The lashes, when restored, grow irregularly and en- or ectropion is established. In nearly all cases in addition to the seborrheic eczema there is more or less conjunctivitis from the irritation of the eyelashes in en- or ectropion and severe inflammation, ulcers and opacities of the cornea may develop.

As for treatment prophylaxis is of prime importance and consists in the careful removal of other seborheic processes especially pityriasis capitis. Locally an application is made to the lids of a wash containing one or two teaspoonfuls of resorcin solution (1-30) to one-half cup of warm chamomile tea. In addition a weak resorcin ointment, zinc oxid or citrine ointment is rubbed into the lids night and morning. If there is hypersecretion of the conjunctiva, cauterization with the copper pencil or mitigated stick, or application of weak silver nitrate or corrosive sublimate solution are indicated. Close trying work by gaslight is to be avoided. Plenty of fresh air and proper general treatment must not be neglected.

Methylene Blue for Epithelioma.

Dr. Dubarry of Havre, reports a case (*Norm. Med.* No. 7, p. 137, '97) of epithelioma of the face, treated and cured by interstitial injections of methylene blue. He claims that the diseased cellular tissue and microbic products are greatly modified by this treatment, and he is convinced that it ought to render the greatest service, not only in superficial cancers, but in deep-seated cancerous growths, especially of the face, provided however, the diseased tissue can be put in contact with the drug. Every affected particle ought to be reached by the methylene blue and the treatment continued until cured. Loss of tissue and consequent deformity as well as bloody and dangerous operations are thus avoided.

*Translated for the MEDICAL AND SURGICAL REPORTER by Dr. H. KIRSHBAUM.

Methylene Blue in Treatment of Intermittent Fever.

M. Cardamates, of Athens, has published most favorable results from the use of methylene blue in intermittent fever (*Bullet. Med.* p. 351-97). It appears from the report of cases that it is dangerous to substitute it for quinin in the continuous fevers and at all events it is an inferior febrifuge. Methylene blue is indicated only where the salts of quinin are contraindicated; as, for instance, when very small doses produce hemoglobinuria, or during pregnancy because of their abortive action. Methylene blue could also be given to children who object to taking the bitter quinin. The daily administration to the adult of eight to fifteen grains has been practised without apparent inconvenience; sometimes, however, it produces a mild cystitis which ceases when the drug is withdrawn.

Airol in Dermatology.

V. Casoli (*Supplemento al Policlinico* 18-1897) has employed airol in the dermatologic clinic in Bologna, on varicose ulcers and chronic eczema, with great success. Granulations formed rapidly and healing occurred in a comparatively short time. V. Castoli extols the pre-eminent keroplastic action of airol and considers it the most efficient remedy for torpid atonic ulcers. He has used it with marked success in obstinate cases of scrofuloderm, where not only was the healing rapid, but the process was limited by protecting the surrounding tissue from infection. Extraordinary were the results in multiple fistulae, originating from caries of the ribs. In this case in which iodoform could not be used on account of the intense irritation of the surrounding tissues, airol succeeded in effecting a complete cure. Excellent results were also obtained when it was used on soft chancre.

Poisoning by Bismuth Subnitrate.

M. Gérard reports a number of cases of poisoning by bismuth subnitrate and explains the so-called idiosyncrasy to the drug in the following manner: The toxicity of the soluble salts of bismuth has been proven. The subnitrate, the most frequently used, is not toxic because it is insoluble. However, it dissolves completely in lactic solutions, which in certain forms of dyspepsia are formed from the lactic acid in the stomach. In these cases the ingestion of the subnitrate can induce the same accidents as the soluble salts are capable of producing.

Preventive Treatment of Syphilis.

Prof. Lang considers preventive treatment in syphilis to be of the greatest importance, but mercurialization must not be too energetic. Inunctions and injections do more harm than good. It is true that the eruption is more perfectly developed but the late syphilides are exhibited in severer form and are unusually obstinate. A mild mercurial treatment introduced at the right time and continued for a long enough period is the best method. A great deal depends on rational living and the strict observance of hygienic laws.

Actol—A New Remedy.

Actol, argentum lactate, is an astringent germicide and antiseptic (*Journal de Med. de Paris*, p. 179-1897). When hypodermatically administered it induces slight burning pain which can be prevented by the previous injection of cocain. Apart from this inconvenience actol produces no unpleasant effects. It is noteworthy that unlike corrosive sublimate it does not form an insoluble compound with the discharges of wounds or the secretion of tissues. Its use for insufflation is however objectionable as a comparatively large amount is required. Moreover it causes photophobia and sufficient irritation of the nasal and laryngeal mucosa to excite sneezing and cough. Actol may be employed subcutaneously for local or general conditions, the beginning dose being one-tenth grain. It has been found very grateful in gargles and lavage. A tablespoonful of solution containing actol, grs. xv to aqua ℥jss, should be added to glass of water. The solution must be kept in a brown glass bottle.

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PHILADELPHIA, SATURDAY, JULY 3, 1897.

EDITORIAL.

BOOK REVIEWS.

Readers of THE REPORTER may feel assured that reviews of any books appearing in its columns are entirely impartial. Reviewers may not always be correct in their opinions as to the value of publications, and it is obvious that very few book reviews can be delayed for several weeks while a busy man reads and studies the work in its entirety, but the verdict given is the result of considerable time and experience and is absolutely for the benefit of THE REPORTER'S subscribers. THE REPORTER has at times encountered publishers who have felt deeply injured at unfavorable opinions expressed regarding their productions and who have gone so far as to say that if the journal would not review their books favorably, they would send no more to it.

This view of the matter simply means that the editor is to be paid with a copy of a work for a favorable advertisement of it, regardless of truth. The old story of the grocer who retired from business because he "couldn't stand it to lie for six pence and then have to charge it," would seem apropos to such case. Even granting that an editor should disregard his duty to his readers and should regard the complimentary copy of a book as a *quid pro quo* for a flattering notice of it, few books represent the advertising space rates of a review of ordinary length.

In the long run it pays any publisher to have his works brought before the readers of a journal in the line of publication. But the duty of the editor is to give each book entirely candid consideration. The publisher who disagrees with the ethics and common sense of this dictum is of about the same stamp as the patient who discharges his physician so soon as the latter gives an unfavorable prognosis, and who is contented only in the hands of the man who will cajole him with pleasant statements, however far from the truth.

IS AMENORRHEA A CONSERVATIVE PROCESS?

This query is not in regard to amenorrhea due to local pelvic causes and obviously within the domain of the gynecologist, but to cases occurring in severe constitutional depression. In the case of a young woman who has menstruated normally and who ceases to menstruate without conceiving or without suffering a local inflammation or congestion, and who later develops unmistakable signs of tuberculosis, it is often said that she has run into consumption, as a result of the suppression of the menses. At present, however, the almost unanimous professional verdict is that the tubercular process has antedated and caused the amenorrhea and that efforts at forcing menstrual flow would be worse than useless.

In such cases, the ultimate prognosis is almost always bad, and the physician need not consider farther than the temporary welfare of the patient. But, in cases of profound constitutional depression which, nevertheless, afford reasonable hope of recovery, should the physician interfere to restore menstruation, or may he safely allow the amenorrhea to take care of itself so soon as nutrition has been improved and the blood has regained its store of hemoglobin?

It is very evident that a patient greatly reduced in flesh, digesting and assimilating feebly, too weak to make even slight exertions and cold and pallid from anemia, is not suffering for want of a monthly depletion.

Yet a case has recently been reported in which an intelligent gynecologist has urged the restoration of the menses, under such circumstances, by artificial means. Does the suspension of function on the part of the uterus result in permanent impairment either of the general health or of the generative organs? Why should not the physician wait at least as long as the normal term of pregnancy before attempting to force menstruation in a patient who is obviously in no condition to lose blood and who presents no indications of pelvic disease?

These questions are not raised for the sake of leading up to a dogmatic assertion. They require careful consideration, both from the man of clinical experience and from the physiologist who builds his ideas of hygiene and therapeutics from theoretical material. Neither can afford to ignore the wisdom of the other. So, too, must the ideas of specialist and antispecialist be weighed impartially.

ABSTRACTS.

SPRAINS AND THEIR TREATMENT.*

A sprain is a momentary disturbance of the normal relation which exists between the opposing bone surfaces, but varying in degree. In some cases the injury is slight; in other cases it may be such as to rupture the ligaments; while in others again it is so severe as to tear off with the ligament a small portion of the articular surface. The latter are known as "sprain-fracture."

The *symptoms* of a sprain are sufficiently well marked. In severe cases the patient faints from the pain produced. The cause of the pain at the time of accident is referable to several causes: stretching of the ligaments in one part and giving of the ligaments in another part; sudden effusion into the joint, and a general

*A. H. Tubby M.S. Lond., F. R. C. S. Eng., before the Hunterian Society, and published in the *Practitioner*.

stretching and tearing of the parts around the joint. The pain becomes less severe shortly after the accident, and for a time there is a period of quiescence, lasting three or four hours, and then the pain increases in intensity, the second advent of the pain being due to tension arising from extravasation in the joint cavity, and also in the parts around the joint which have suffered. In a short time swelling appears, due partly to effused blood and effused lymph in and around the joint. The swelling is especially noticeable at those parts of the capsule which are not supported by ligaments nor by muscles. With the increase of pain and swelling the movements of the joint become limited, and the patient is unable to walk. After a time, usually three or four days, subcutaneous extravasations of blood can be made out, and such extravasations are always most marked where the damage to the ligaments and the periarticular tissue is greatest, and give an indication as to one detail of treatment.

The essential point to bear in mind is the existence of two stages as indicated by two attacks of pain: the first being the stage of injury, associated with stretching and tearing of the parts and effusion of blood; and the second occurring after an interval of two to three hours of more or less quiescence, being the stage of tension and continued effusion. Much harm is often done by the patient attempting to use the joint during the quiescent period. Sometimes an effort is made to walk off the sprain with bad results. Of course, fractures and separations of the epiphyses should be carefully excluded. In doubtful cases, after the lapse of some days, if we have reason to question our diagnosis in the case of a sprain, the diagnosis can be cleared up by observing the tender spots* about the joint. These tender spots existing after a sprain generally mark the situation of roughened, inflamed synovial fringes, or sometimes spots where there has been extravasation of blood into the joint capsule. In severe and old-standing cases these tender spots may be indicative of the position of bands of adhesion. It is important to remember the existence of these spots and the causes of them, since there arises very considerable difficulty, after a sprain, in getting rid of pain at these spots. Patients often express themselves dissatisfied that, while they are able to move about, their locomotion is accompanied by considerable pain at the spots I have mentioned.

The application of cold and of heat, properly applied pressure, immobilisation by splints or plaster-of-Paris, friction, and the use of the constant current, are all valuable in their place, but the true treatment of sprains consists in the appreciation of the right time to apply these. The application of cold, either by ice or by cold water, or by evaporating lotions, has of late years fallen into considerable discredit, due not to the agent itself, but, to a non-intelligent method of applying it.

Let us go back for a moment to what happens at the time of a sprain. As the result of the injury various vessels are ruptured, and there is an instantaneous pouring out of a certain amount of blood and of lymph. This pouring out goes on for three or four hours after the injury. It is during those three or four hours that cold is so effective, and it acts in the following direction. It is as a local constringent of the vessels, limiting their size and lessening the effusion. Now, if a less effusion than otherwise would have been the case is poured into a joint, the time of healing is lessened, the probable amount of stiffness afterwards is also decreased, and the patient is able to get about much sooner. So that I should advise the application of cold only during the first three or four hours after the accident.

There are also two other means which may be employed at this stage to check the amount of the effusion. These are the application of pressure, and placing the joint in such a position that its potential cavity is lessened. For instance, the knee should be placed in extension and not flexion, the ankle at a right angle, and not in full extension nor in full flexion, and so on. In applying bandages, it is of no use to put on the ordinary bandage alone, since by it pressure is merely made on the prominences of the bones at the joint. But pressure must be so applied that it is brought to bear evenly on all parts of the capsule which

*Such a tender spot is found in the knee, just to the inner side of and below the pattella; in the ankle, at the front of the external malleolus.

can be got at. For example, in the case of the ankle-joint, a bandage around the ankle merely presses mainly on the internal and external malleoli and on the tendo Achillis behind. But, now, if three or four layers of cotton wool be placed on the joint and the bandage then firmly applied, the cotton wool, so to speak, sinks into the various hollows of the bones and effectually compresses the distended capsule.

If, then, a case of sprain is brought to me within the first two or three hours at the most of its occurrence, I apply cold vigorously for about ten minutes to a quarter of an hour, either by pouring cold water over the joint, or by the application of ice, or by the use of spirit-lotion, and then wrap the joint round with lint or other suitable material soaked in cold water or in spirit-lotion, and put on three or four layers of cotton wool, and place the joint in that position at which there is least potential cavity in it, and then firmly bandage over it.

If the second stage of the symptoms of sprain has come on, and the pain, which passed off somewhat after the injury, has now become more severe, the application of cold is not of much value, since by this time the tissues have become distended with blood and with lymph, and if the parts have been kept at rest effusion will have ceased now to be poured out. The most prominent and troublesome symptom is that of pain. Nothing succeeds now so well in diminishing the pain as the frequent application of hot water, or, better still, of hot vinegar and salt—an empirical but very successful remedy.* It seems that hot applications not only diminish the pain, but also exercise a permanent effect upon the duration and upon the amount of the swelling; and it is in this way: when the vessels which have been injured have recovered their tone, the application of hot water promotes absorption, so that the effused blood and lymph are rapidly taken back into the blood-vessels and the lymph-channels. During this time the joint should be kept at rest, and it is advisable also to maintain pressure on it by cotton wool, since well-directed pressure also promotes absorption.

*For this and several other hints on the question of treatment I am indebted to a valuable paper in the *N. Y. Med. Rec.*, by Dr. J. F. Culp.

As to this all-important question of rest. How long should it be carried out? As a rule, most joints are rested too long, and one may say that, taking an average, three or four days after the swelling has subsided, movement of the joint should be begun. Now the movement of the joint is also an important point to be attended to. It has already been stated that we can ascertain by the distribution of the extravasated blood which part of the joint has been most injured. To take, for example, injury of the external lateral ligament of the ankle. No one would be so unwise as to invert that ankle as part of the movements, but would flex and extend and carefully evert it, but not invert it, so that while moving the joint he would be in no way interfering with those parts which have been so recently injured. It should not be forgotten that constitutional conditions influence the question of sprains very considerably. For instance, one must be careful in the treatment of a tuberculous patient, and see that such a patient rests much longer than an ordinary one.

In some cases the amount of swelling is very considerable, and it is not merely sufficient to put on hot applications and to place the joint at rest, but something more must be done. The best method is properly applied and directed friction. The object of friction is to empty the lymphatics of a certain amount of coagulated lymph which blocks them; and in rubbing the parts it is always advisable to begin to rub that part of the swelling which is most distant from the joint, thus emptying the lymphatics at that part first, and then those parts that are nearer the joint, and so promote circulation of lymph from the most congested to the least congested parts. This is a valuable "wrinkle," and one which has always been attended with considerable success. Together with the rubbing, frequent ablutions of the part with hot water, or the application of hot vinegar and salt, should be adhered to at this stage.

If, after ten days' treatment of this kind, the thickening about the joint has not disappeared, and there still remain tender spots on moving the articulation and on making pressure, counter-irritation by iodin, or, better still, by blisters, is indicated. As a rule, one may say that

in fourteen to seventeen days, with treatment as above indicated, a severe sprain will cease to give rise to trouble and inconvenience, and the patient will be able to walk about with comfort.

Sometimes, however, it happens that on the patient attempting to use the joint acute pain sets in again. Such pain is due to subacute congestion of the joint, and the only treatment for it is absolute and complete rest. This is most effectual if the joint is placed in plaster-of-Paris, and in some instances four to six weeks is not too long to keep a joint entirely at rest. After a joint has been at rest so long, movements will necessarily be awkward, stiff, and not infrequently painful. Generally speaking, such pain does not arise from adhesions within the joint, but is really due to the condition of the muscles. They are at this stage somewhat atrophied, and their tendons are more or less glued in their sheaths. The best means of overcoming the difficulty is friction with stimulating applications, such as lin. chlorof, and I frequently use a liniment composed of lin. opii, lin. bellad., together with the preceding. In addition to this the use of the faradic current is of value, more especially if there be muscular wasting and stiffness without much pain. If there is much pain or tenderness present the constant current answers better, as it seems to not only improve the nutrition of the muscles but to remove the pain.

If, however, there should be considerable stiffness without pain coming on after the prolonged rest, and not removed by friction and the use of the faradic current, forcible movements of the joint under anesthetics should be carried out.

Humbugging in Medicine.

It is a very sad commentary on the practice of medicine that humbugging is almost a necessity, and the honest physician, that is, the physician who takes the patient into his confidence, soon finds himself without that patient. As a man once said to his doctor: "Doctor, my wife thinks she has some trouble with her lung, and if you do not humor her some one else will." The trouble is that if a physician says honestly to a patient that she is well and needs no medical attention, she straightway writes him down for a fool and sends for some one else. This one may be just as honest as the poor fellow who was dismissed, but he holds his tongue where the other one talked and "looks wise, feels foolish and says nothing." Patients always like to think their physician is above them in knowledge, and when that familiarity which is said to breed contempt is once established between doctor and patient, obedience and respect are lost. The patient need not understand all that is done, nor need the nature or proposed effect of the medicine given be revealed. Indeed the truly honest man can do his patient justice and himself credit by explaining nothing and using his best efforts to effect a cure or an improvement. The public knows too much of medicine as it is, and this smattering should not be encouraged by any confidence of the physician. One can be honest and also discreet.—*Maryland Med. Journal.*

A New Dispensary Abuse.

A report comes to us as we are about to go to press (as the *County Weekly* puts it), to the effect that a physician has been dismissed from one of the most fashionable dispensaries in a neighboring city (of course it could not occur in New York) for abstracting a fifty-dollar banknote from the purse of a patient.

The pocketbook was left upon the dispensary desk, it is said, while the lady entered an adjoining room to prepare for examination. The plea made to the governing board by the physician was that he had been overworked, having treated over four hundred patients at the dispensary during the three days preceding the temptation which caused his fall, and that during this time he had been unable to procure but one full meal. Hunger and the means at hand to appease it may have proven too strong a combination for his overwrought nerves, but this naturally did not weigh with the board. The *clientele* of the institution must be made to feel that while a patron is undergoing treatment his valuables are safe. The argument was used by one of the governors that, if the patients' money is to be taken from them, they might as well go to a physician's office and be done with it.

The crime of robbing a dispensary patient cannot be too severely punished, since such acts would soon deter many persons of wealth from patronizing these institutions. It is therefore most fitting that the culprit in the present instance will be forced to take his chances for the future in private practice.

There is something to be said upon the other side. It seems unwise for applicants to carry with them and display at the dispensary large sums of money, diamonds, and the like. It would surely seem to be in the nature of contributory negligence if in the future applicants for free treatment put temptation in the way of doctors, who after all are only human and often hungry.—*Med. Record.*

SOCIETY REPORTS.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

Stated meeting, May 28, 1897.

The President, Dr. James Tyson, in the Chair.

Dr. H. A. Hare read a paper entitled

"The Skin as a Diagnostic Factor in Disease."

Dr. Theophilus Parvin read a paper on

"Monstrosities,"

with presentation of two specimens, one human, the other animal.

[See page 3.]

DISCUSSION.

Dr. Edward Jackson said that one of the strongest cases in favor of maternal impression was reported by the late Dr. William Hunt. It occurred in the Pennsylvania Hospital, where a pregnant woman was brought with very extensive burns of the surface as a result of which she died. Dr. Jackson did not remember whether she was delivered before death, or examined post mortem, but the child's surface showed a very close resemblance to the surface of the mother, an acute skin-lesion similarly distributed. All the special senses, the power of certain living tissues to react to particular external stimuli, come by differentiations arising in an originally homogeneous bioplasm. It is conceivable that at an earlier stage this bioplasm possesses a general power of reacting to impressions which does not depend upon any special organization as that of the nervous system. Such a power, the power of reacting to powerful impressions made upon the mother, would probably be of the highest use to the unborn child. But it might be an extremely dangerous capability after the individual had begun a separate individual life and at an early age it would be lost. It seems that the absence of any demonstrable nervous connection, of any specialized channel of communication, between mother and fetus is not a sufficient reason for throwing out cases of apparent maternal impression.

Dr. Henry Beates, Jr., made remarks concerning

Some Observations upon the Aorta with Reference to its Special Function as a Factor in the Nutrition of the Myocardium, with Suggestions as to Treatment.

[See page 1.]

DISCUSSION.

Dr. H. A. Hare said that it is to be remebered that myocardial degeneration is generally regarded by therapeutists as a condition in which digitalis is contraindicated. In addition to valvular lesions of the heart with high arterial tension, therapeutists in general believe that fatty degeneration, or other degenerative change, contraindicates the use of this remedy and that in direct proportion to the degenerative change which is taking place in the myocardium digitalis does less and less good when it is administered.

The question in regard to the filling of the coronary arteries is one that has long interested therapeutists and physiologists, one school asserting that these vessels are filled only during diastole, while another school asserted that they are filled during the systole of the heart. From a therapeutic standpoint it probably makes very little difference which one of these theories is received as correct, because the coronary arteries after being filled do not instantly supply the cardiac tissues with blood. Those who have watched the cardiac muscle in the lower animals know that when active and forcible systole takes place the heart-muscle becomes very much paler and apparently is more bloodless than when it is in wide diastole and this, of course, is a condition that takes place in any muscle which is actively contracted. From the studies that he has made (which, however, are not sufficiently accurate to be put on record) Dr. Hare believes that the cardiac arteries are supplied during the systole of the heart just as are all the other arteries of the body, and that this particular impact of blood, which does not benefit the cardiac muscle until the next diastole, comes when the in-

terchange of gases and the nutritious substances of the blood and the tissues of the heart takes place.

It is to be remembered that there are other influences at work in the heart governing the muscle besides the mere blood-supply from the coronary arteries, as, for example, the influence exercised by the pneumogastric nerve.

Ten or twelve years ago Gaskell, of Cambridge, sought to prove that the pneumogastric nerve is the trophic nerve of the was the direct action of the pneumogastric fibers the heart-muscle receives nutritional impulses in exactly the same way that all other muscles do. He reached his conclusions largely from studies in comparative anatomy and basing his ideas upon evolution, without being able to prove that this was the direct effect of the pneumogastric nerve in the lower animals. It has been the teaching of a number of therapeutists since Gaskell's studies that digitalis does good in cardiac disease not only through stimulating the heart by increasing its blood supply by filling more successfully the coronary arteries, but at the same time it effects another trophic and nutritional influence by stimulation of the pneumogastric nerve both centrally and peripherally.

Dr. Hare referred to some experiments which have yet to be supplimented by a pathologic report. This research was based upon the clinical fact that nearly always when a patient has had a marked valvular disease of the heart and takes digitalis for a number of weeks and then dies from any cause, dilatation and hypertrophy of the heart are found. Further, in patients who die after taking digitalis for many weeks because they have a cardiac lesion, marked cardiac hypertrophy is found. The ordinary clinician would imagine that the cardiac hypertrophy is due rather to the attempt of the heart to compensate for the leak than to the digitalis. A number of studies have been placed on record in which digitalis has been given to animas and to man and blood-pressure and pulse-rate have been noted, but there have been none to show what the influence of digitalis is on the heart when taken for many days. Dr Hare resorted to the somewhat homely method of taking ten pigs all belonging to the same litter (choosing pigs because they are more easily dealt with than dogs, which are liable to break loose, and because pigs also have a diet more like that of human beings), weighing them, dividing them up into two batches of five each so that the weight of the five pigs in one pen was within one and a half pounds of the pigs in the other pen at the start. Five of the animals then received ascending doses of fluid extract of digitalis from January 4 to May 1. After they had taken the drug for three or four weeks the farmer in charge expressed certainty that the pigs that were getting the medicine were growing faster than the pigs that were not. On May 1 the animals were found to have gained twenty-eight pounds more than those without digitalis and the hearts weighed nearly five ounces more than those of the pigs that had not gotten digitalis. Of course, it may be said that the increase in weight was due to the stimulation of the heart, which then grew faster, or that the drug stimulated the growth of the pig and the heart grew in proportion. Be this as it may, the results are very interesting, and especially if histologic changes are found. In an imperfect series of studies on puppies made several years ago in conjunction with Dr. Meigs' histologic examination of the hearts rendered it probable that the fibrils were stronger.

Finally, in regard to the cumulative action of digitalis, the medical profession in the United States does not generally recognize a rule that is almost invariably followed by French therapeutists, namely, that digitalis is a remedy that should not be given for a long period of time continuously. The best French therapeutists give digitalis for seven or eight days; then stop from three to eight days, because the effect is so prolonged that its good influence will be extended over from three to eight days, and the body has a chance to get rid, by oxidation or elimination, of the poison that has been accumulating in it more rapidly than the physician imagines. Dr. Hare believes that digitalis is given far too freely and frequently, in the sense of too often in the twenty-four hours. If ten or fifteen drops of the tincture be given twice a day, night and morning, until the full physiologic influence of the drug is exerted, or, if the case be pressing, with marked symptoms of cardiac distress, three or four times a day until the distress has been relieved and the heart put in good condition, then in exactly the same way the dose of digitalis is cut down, as one would in treating a syphilitic with mercurous iodid, until small doses of digitalis are being given and its influence continued. When a patient has syphilis he is at first given doses of mercury so large as to almost salivate him and then tonic doses are continued for an indefinite time in the same way.

Digitalis is to be given until the full effect is secured, so as to relieve the patient of pressing symptoms, and then the effect is maintained by cutting down the drug until so-called tonic doses are administered.

There is scarcely any subject in medicine or therapeutics about which more difference of opinion or more uncertainty exists than as to what is meant by the term "cumulative." By cumulative action Dr. Hare understands the development of more or less severe symptoms of digitalis poisoning. It is probable that digitalis does not differ from arsenic or strychnin in its ability to produce a cumulative action, except that its effect is exceedingly prolonged and it is exceedingly slowly eliminated or burned up

in the body; whereas if a man be given strychnin in very full doses he will develop symptoms of poisoning; in a very few hours more the drug will be rapidly eliminated from his body and he will be entirely free from it. In the use of digitalis this effect come on with extraordinary suddenness, without any warning in many cases, and often when the patient makes some movement. Brunton reports cases in which patients have gone on taking digitalis, developing the slow, full pulse, and getting up to urinate or sitting up suddenly in bed, when the balance of circulation is upset and instantly the heart beats in the most tumultuous manner, and syncope comes on, sometimes with collapse and death. Janeway is so confident of these effects that he states the belief that he has made frequent post-mortem examinations in Bellevue Hospital, New York, in cases of patients taking digitalis who had gotten up to go to the water-closet adjoining the ward and dropped dead. The cause of death was supposed to be a lesion of the heart, when in reality it was due to the action of digitalis. It is probabel that this very effect is produced through inco-ordination of the action of the heart muscle.

Dr. Alfred Stengel speaking from the clinical and pathologic point of view, feared that Dr. Beates was playing rather fast and loose with the term fragmentation of the myocardium. This condition, which was described a great many years ago by Zenker, in a paper in which he detailed the changes in tissues as the result of typhoid and other long-continued fevers and subsequently by two Frenchmen, is a distinct pathologic lesion. Fragmentation or segmenattion of the myocardium, or both, is a change that, so far as pathologists know, is certain to result in a fatal termination. Therefore to speak of segmentation of the myocardium being recovered from under the influence of digitalis is, from a pathologic standpoint, to speak without sufficient authority. Cloudy swelling of the heart, on the other hand, is recovered from every day. Every time a patient has typhoid fever and the fever continues at its usual elevation there is cloudy swelling that is recovered from; and probably in advancing age, with disease of the coronary arteries or of the aorta, there is cloudy swelling which may be recovered from, withor without the administration of digitalis.

Fragmentation and segmentation of the myocardium probably represent a condition that occurs only just before death or post-mortem. According to Zenker it is a post-mortem or an agonal condition.

There is no evidence in support of the possibility of segmentation and fragmentation being recovered from. It may be that it is, but there is no evidence in the lesions themselves that there is any reparative process; there is no exudation of white corpuscles. Therefore, pathologically there is no evidence that myocardial fragmentation ever gets well or ever has any tendency to get well, and therefore the opinion of pathologists that it is a condition developed at the close of life, just before death or that it appears after death, is more or less justified.

As to the local effect of the blood-supply in producing this change, it may be said that all experimental evidence tends to show that the condition is due to toxic causes, to circulating poisons, probably to fever in certain cases, and leading to that sudden rupture of the fibers of the heart-muscle which terminates life or leads to death. The mere shutting off of some of the coronary circulation may develop serious changes in the heart-muscle, but that fragmentation and segmentation are among such changes is not probable.

Dr. S. Solis-Cohen said that Dr. Stengel has called attention to an important question which goes still further than this discussion and which it is perhaps worth while to lay additional stress upon. Concerning the possibility or impossibility of recovery from or recognition during life of certain lesions demonstrated post mortem there is always room for debate. From a merely logical standpoint much that has been said as to segmentation and fragmentation might be said as to cloudy swelling. Aside from that, the absence of reactive changes in connection with fragmentatiou and segmentation seems conclusive, at least for the present, against any use of these terms which would connect them with lesions occurring in the course of life except at its termination. Disease and recovery represent always one continuous process. Unless such continuity can be traced between the action of disease-producing substances or forces, the lesions set up by them, and the processes or reactions of recovery, there is not established a chain of morbid events from which recovery is possible. The fundamental difference between recovery in the usual course from certain lesions and death immediately following other lesions is simply that in the latter there is no train of action set up at which at the other end there may be a return to normal processes. The pouring out of callus following fracture is one of the very simple illustrations that will immediately be called up to illustrate what is meant.

The disease and the recovery, the loss of structural integrity and its restoration, are connected in an indissoluble cycle. Hence, if it be found as to fragmentation and segmentation, or as to any other lesion, that in all the cases studied up to date there is no evidence of a reactive process or one that would naturally lead to restoration of normal integrity, there is no justification for speaking of that as a lesion from which recovery does take place, as a lesion that is amenable to therapeutic measures.

A word in relation to the therapeutic administration of digitalis: It was not to have been expected that patients could take digitalis for three years uninterruptedly; and if patients can do that there is another fact to add to the data upon which therapeutic

theories must be based. A good practical method of interrupting the administration of digitalis without interrupting the continuous action of some cardiac medicament has proved feasible and successful. The action of strophanthus in some respects closely resembles the action of digitalis and may be used at times to replace it. It is quite possible to give digitalis and suddenly stop and give the patient strophanthus and suddenly stop and give digitalis and so alternate; but in many instances of cardiac af- and then give the patient strophanthus and suddenly stop and then give again digitalis and so alternate; but in many instances of cardiac affections in which the wise administration of some such drug seems to be necessary it is better to adopt a method of gradual alternation. For instance, ten drop doses of the tincture of digitalis twice a day or three times a day can be continued for a week. Then one drop less is given at a dose, substituting in place of the drop of tincture of digitalis a drop of tincture of strophanthus, and continuing this process for ten days. Then the patient will be taking ten drops of strophanthus, which dose is continued for another week. Then reversing the process the patient is gradually brought back to the full dose of digitalis, and so on.

A point that deserves to be further enlarged upon is the great importance of the vasomotor tone in the treatment of cardiac and vascular diseases and in the improvement of nutrition generally. In most cases of circulatory disorders too much attention is paid to the condition of the cardiac valves or perhaps the condition of the cardiac muscle and too little attention to the condition of the terminal vessels. In some cases the action of digitalis in increasing blood-pressure by heightening the tension of the vessels is undesirable. This operates against the relief of the valvular lesion for which the drug is given and must be modified by nitro-glycerin or otherwise. In some cases, however, the only medicament that is necessary is one that will raise blood-pressure by constricting the vessels if need be, or, on the other hand, lower blood-pressure by relaxing the vessels. It would be wandering from the subject to cite the drugs or other measures which can accomplish this or that action, but in many cases and chiefly in just such cases as those described by Dr. Beates, that is from the clinical standpoint, the best results follow the use of baths or gymnastics or medicaments the object of which is to heighten the nutrition of the nervous centers generally and to improve the tone of the vessels especially.

Dr. Henry Beates said that from the discussion it was evident that the impression prevails that he believes recovery from segmentation and fragmentation of the myocardium possible. This is not the case, as the lesion is necessarily a fatal one and may or may not be associated with the act of death. It is to be looked upon as the ultimate consequence of the degenerative process characterized by cloudy swelling, dependent upon diminished supply of pabulum to the myocardium and under the conditions to which the remarks submitted were limited. Of course, any condition diminishing the volume of blood in the coronary arteries, whether from obstruction *in loco*, or from diminished aortic elasticity, or reduced vaso-motor tone, will practically bring about the same nutritional changes and calls for the application of the principle underlying treatment, viz., the restoration of circulatory equilibrium and this the remedy named does. Reference has been made to the powerful effect of digitalis upon the ventricular muscle, and that if used in sufficient quantities the systolic contraction is so intense as to squeeze out all of the blood. If this is adduced to combat the theory advanced, it is to be recalled that administration of digitalis is followed by augmentation of the force and rate of flow of the column of blood through the aorta, with the consequent compensation for the loss of elasticity; the period of diastole is prolonged and better opportunity is afforded for the relaxed muscle to be thoroughly surcharged with blood, and the nutritional processes to be successfully operative. Hence the apparent objection falls.

As to the absence of evidences of reactive inflammation discoverable in segmentation and fragmentation it is to be remarked that that feature only reinforces the position taken and proves that the condition described is pre-eminently one of impaired nutrition, and that its proper treatment consists in the exhibition of the remedy known to possess the power of restoring, other things being equal, those conditions upon which healthful nutritive activity depends. That other influences are concerned in the nutrition of the heart is a certainty, and the trophic function of the pneumogastric doubtless plays a conspicuous role, and when the action of digitalis upon this nerve is recalled, the inference is fair that in its stimulation of pneumogastric power the trophic action shares in an equal degree. Dr. Hare's guinea-pig experiment is especially interesting, and still further demonstrates the value of digitalis as a stimulant of cellular metabolism. It is probable that when the histologic studies are completed in those animals in which growth and development were so pronounced, it will be shown that the power of digitalis to augment cell action and nutrition will be incontrovertibly proved—a still further support for the position advocated for the treatment of impaired cardiac nutrition.

Stated meeting, June 9, 1897.

The President, Dr. James Tyson, in the Chair.

Dr. T. B. Schneideman read a paper upon

"The Proposed Operative Treatment of High Myopia."

[See page 11.]

DR. EDWARD JACKSON read a paper upon "THE TREATMENT OF VERY HIGH MYOPIA."

[See page 7.]

DISCUSSION.

DR. W. L. PYLE said that Dr. Schneideman appears not to have spoken of the suggestion recently urged that in cases of very high myopia one lens only be removed, giving the patient one eye for distant vision and one for near vision. Of course, this has the disadvantage of rendering binocular vision impossible.

Dr. Jackson has brought out a very good point in speaking of the mechanical construction of spectacles in this country. Personal observation of glasses ground and fitted for foreign clinics creates the impression that most of the European operators do not have as good opticians close at hand as exist in Philadelphia. It is important further in prescribing glasses to secure the patient's confidence. It seems certain that abroad, where the proposed operation is most in vogue, when patients come in to the clinics and say they cannot wear the heavy glasses required to correct the optic defect there is no attempt to persuade them into wearing them. American oculists, on the contrary, are inclined to inform patients that the first pair of glasses may not be satisfactory, that they must necessarily submit to some inconvenience, and that in three or four months matters will come all right.

Dr. Pyle could not agree with Dr. Jackson in advising full correction of myopia. He spoke as a myope from his own personal experience. Some of the worst cases of asthenopia have been in myopes wearing full correction, or over-correction. There is a strong tendency to over-correct myopia, particularly if a cycloplegic is not used. For moderate myopia Dr. Pyle would prescribe an under-correcting glass, particularly if the patient were a literary person, and such a compromise glass can be worn constantly until the presbyopic age. In some cases bifocals may be prescribed for young adults.

DR. JAMES THORINGTON said, in regard to the ordering of glasses for myopes, that his experience, especially in clinical work, has shown a certain class of patients who are comfortable with a full correction for all kinds of work, and another class who are not. In other words the attempt should be made to adapt glasses to each individual case and not to lay down any rule for all. For instance, a patient wearing a minus 2 diopter sphere before each eye had an estimated myopia of 25 diopters. When this correction was put before her eyes, she became dizzy and nearly fell from the chair and asked to have the glasses removed at once. By careful explanation this patient was gradually gotten to wear minus 18 diopters before each eye with great comfort and satisfaction. Dr. Thorington has found the use of the full correction for all work very satisfactory in most cases when the strength of the glasses did not exceed 6 diopters, although some of these will come back complaining of the brightness of objects, and the strength of glass will have to be reduced. One young lady who wears 5 diopters before each eye prefers her full correction for all purposes and when an attempt was made to reduce the cortion 1 diopter, she returned and asked for the full strength lens. As to the operative treatment for high myopia, the young lady who was wearing 18 diopters for distance and near, refused an operation when she learned that she would most likely have to wear two pair of glasses after the operation. The one thought alone of having two corrections destroyed all assurances of improved vision after the operation.

DR. S. LEWIS ZIEGLER said that during the past year he has operated on two cases of high myopia, one by the method of extraction and the other by discission of the lens. The latter method is preferable in young persons, at least when the lens is soft, although when the lens has become more hardened, the method of extraction is to be preferred.

In one of these cases the refraction after operation was S+3. D, and in the other C+3. 50 D., axis 10°. Both patients expressed themselves as having far better, clearer and more definite vision than they had previously enjoyed, and were gratified with the result.

In prescribing lenses for cases of high myopia, Dr. Ziegler always orders the full correction for distance, and a weaker correction for reading or near work. These are conveniently combined together in what is known as the ground bifocal, in which the upper portion of the lens is ground stronger than the lower, in this way avoiding the use of a cement bifocal slip on a concave lens, which requires a very high prismatic edge in order to place the reading center in its proper position.

DR. LOUIS J. LAUTENBACH said that he has not operated upon any cases of myopia by the method described and he thinks, so far as a city such as Philadelphia is concerned, full of first-class oculists, there would be difficulty in obtaining the patient's consent to such a procedure. The amount of good accomplished in other ways is so great and constant that one would be justified, even in case of high myopia, in giving the patient the assurance of great benefit without operation. The tendency of the public to-day is rather against operation. They understand fully that the trend of the last ten years in the medical profession has been toward operation, but they are beginning to object and the medical profession has begun to lose much of its enthusiasm for operating.

Patients will scarcely listen, in any great degree at least, to the question of operation unless it is a matter of necessity. This operation does not present an attractive prospect to anyone who can be made to see at all by means of glasses. The ordering of correcting lenses by American oculists and their fitting by American opticians

give promise of a great deal of good and, when, in adition, it is considered that the eye-physician of to-day does not think his duties ended with the ordering of the glasses, but believes his work has but commenced, and patients realizing that when they put themselves in the hands of such a one and allow him to treat the choroid, the staphylomay diseased eye, as he only can, with benefit so great that they will rarely demand operation, but rather avoid it, the difference between American and European methods will be more thoroughly understood. Taking all things into consideration, it is the doctor's duty to do the greatest amount of good possible with the least amount of danger to the patient.

The public has a right to demand the sacrifice of the least possible of function and organization, with the greatest relief obtainable. As soon as the question of operation is raised in such cases the patient will want to know why—the reason, is there no other method? Can nothing else be done? Is it the very last straw? Can you not do something further than you have done and thus avoid the operation? The ordering of myopic glasses seems theoretically a simple one, but practically it is a complicated one. Theoretically absolute measurements can be obtained, and glasses corresponding ordered, but it were better to order glasses rather in accordance with the practical needs of the patient, adapting them to his particular occupation, environment, etc., in some cases ordering full correction for distance and weaker myopic glasses for near; in other cases full correction glasses even for distance, hoping that the choroidal conditions may have a better opoprtunity for subsidence. Again, in other cases, less than full correction for constant use. In other words the glasses should be so adapted as not only to fit the patient's eyes, but also to give him ease and comfort and allow him at the same time to do his necessary work without danger of overstrain or imperfect definition.

Dr. Edward Jackson said in reference to the full correction of myopia, that he did not mean to say that he fully corrects all cases of myopia. He merely makes full correction the rule, and departs from that rule only for some clear and definite reason.

There can be no question but that the point mentioned by Dr. Pyle is the point of divergence between the practice in Philadelphia and the practice in the larger European centres. It is the question of accurate work with glasses, not only accurate measurement of the refraction of the eye, but also the accurate mounting and adjustment of the glass throughout.

PERISCOPE.

NEWS AND MISCELLANY.

Vehsememeyer (*Deut. Med. Woch.*, March 18, 1897) relates a case of **congenital dextrocardia** examined by means of the Roentgen rays. It occurred in a lad, aged 16, who was ill-developed for his age. He was left-handed. There was no cardiac impulse to the left of the sternum, but a diffuse pulsation was noted on the right side, the apex beat being in the fourth right interspace. The cardiac dulness was also placed to the right. The diagnosis of congenital dextrocardia, without transposition of the large vessels, hypertrophy of the right ventricle, chronic pneumonia of the left lung, and chronic bronchitis was made. In the skiagraph taken from behind, the lungs showed an even, bright shadow, which extended three ribs lower down on the left than on the right. To the right of the vertebral column there was a shadow due to the heart more deeply marked in the upper and middle parts. The dome of the diaphragm was distinctly to be made out, and this shadow was curiously placed higher on the left than on the right side. On the right, the cardiac shadow passed into the hepatic shadow. The splenic shadow was also visible. The hepatic shadow was intensified lower down owing to the renal shadow. Pure congenital dextrocardia appears to be much rarer than complete transformation of the viscera. It has been recorded only in some twenty cases.—*Brit. Med. Jour.*

Clark (*Amer. Jour. Obst.*, April, 1897) brings forward clear clinical and scientific evidence which tends to support the growing mistrust of the **drainage tube in abdominal surgery**. Mechanically it is not to be trusted. Its presence handicaps the peritoneum in three ways: The normal peritoneal currents are disturbed, so that the circulation of fluids and foreign matter towards the diaphragm is retarded. An active inflammation is set up about the drain, limiting and impeding the action of the peritoneum. Thirdly, within a few hours the general peritoneum is cut off from all participation in the work of absorption by the wall of adhesions around the drain. Sinuses and hernia not infrequently follow the use of the tube. Infection through the tube may undoubtedly occur. Hunter, Kopp, Kelly and others report badly of the tube after long experience. Kelly tried the Mikulicz gauze bag in 40 cases, but it proved little more effective than the simple gauze

or glass tube. The pieces of gauze within the tube were easily removed, but the gauze bag itself was often difficult to extract, and, except that it checked oozing more effectually, was not superior to simple gauze. Lastly, in the Johns Hopkins Hospital, the great frequency of the infection of drains, as demonstrated by bacterial examinations and the rarity of living pyogenic organisms in the diseased structures, has caused the almost complete abandonment of drainage as a means of removing infectious matters from the peritoneal cavity.

Difficulty in Diagnosing and Treating Diseases of the Mind—Some time ago Dr. S. Weir Mitchell strongly criticised a large and representative body of specialists in diseases of the mind, for not advancing their science not alone in the matter of treatment, which has seen but little comparative change in recent years, but as well in diagnosis and preventive measures.

The force of the criticism may be somewhat measured by a reflection upon the profound difficulties which surround this class of cases, difficulties of every shade of extrinsical character, and difficulties of inherent, individual types which no general rule could cover and no common plan of relief or effort could compass.

A hint of the position of this great and increasing group of diseases is contained in words uttered recently by Dr. G. F. Keene, physician to the Rhode Island State Insane Asylum (*Bos. Med. and Surg. Jour.*).—"Diseases of the body, however, have no comparison with the diseases of the mind either in their ease of classification or definiteness of causation. Their pathology is as yet largely relegated to the realm of speculation, their symptomatology is much more decidedly influenced by the temperament of the individual attacked. Symptoms are many times obscured and often concealed that might suggest the true nature of mental disease. The consciousness that a court or some legal process must be appealed to soon after the physician is called, does not tend to simplify the matter of diagnosis or re-enforce the method of treatment. It is in the domain of mental medicine then that the ordinary physician is most sorely tried, both as to diagnosis and treatment. Here he realizes, if never before, the limitations of medicine as a science. He looks for some signal symptom, some pathognomonic sign; the symptoms of mania, melancholia and dementia he has learned to differentiate, but he finds them all in his first case, or he finds them not at all, and yet feels certain that he is dealing with a case of mental alienation. Perhaps he is tempted to hold for advisement his decision, meanwhile invoking the protection of that euphemistic phase ' nervous prostration,' to characterize the condition of his patient."—*Chicago Clinical Review.*

Longevity at a Higher rate in Temperate Climates—The official figures of a recent census report show that climate determines longevity; that is to say that within the temperate zone, the duration of life is higher than in warmer or semi-tropical countries. To quote conclusions: The average number of persons over 60 years old in 1,000 inhabitants in the United Kingdom is 77, and in the German Empire, the climate of which is similar, it is the same. In Holland it is also 77; in Denmark 84; in Sweden 88, and in Norway 90. In Russia the longevity of the inhabitants is greatest in the northern provinces and lowest in the southern ones. The average of European countries in the north temperate zones, England, Germany and Holland—77 a thousand—falls to 71 in Austria and in Portugal. In Spain, where the climate is generally m..der than in Portugal, the number of persons over 60 years of age in a thousand is 58 only, and in Greece it is 56. In the East Indies, as far as there are any authentic figures, the average is only 40 in a thousand inhabitants. In South America the average is about 50, though there are, of course, many exceptional cases. During 1896 the death of 188 persons over 90 years —14 of whom were actually over 100—was recorded in Great Britain—the average longevity rating in the following order, Ireland, Scotland, England. Of a thousand persons, men, women and children, resident in England, the average number over 60 years is 72, or somewhat more than 7 per cent. In Scotland the porportion over 60 years af age is 7.7 per cent. and in Ireland it is 10.5 per cent. Ireland follows after France as regards respective age, the porportion of adults over 60 years being 127 out of each 1,000 inhabitants. The United States do not stand very high in the scale of the elderly, the law seeming to be that life is longer in old than in new countries. Unexpectedly this census reveals the fact that the birth rate is the greatest in England and least in Ireland.—*Journal American Med. Association.*

It is impossible to assert that such a ghastly event as **burial of the living** has never occurred. There are well authenticated cases of bodies having been laid out for interment that yet retained their vitality; still, if the list of alleged burials of the living were subjected to critical examination we opine it would dwindle to very narrow proportions. We ardently support the reform of death certification. No argument is neede to enforce the desirability—nay, the paramount necessity—of efficient death verification; but we cannot acquiesce in the proposal that no interment should take place prior to the advent of cadaveric decomposition, believing as we do that a conscientious medical observer can verify the decease of a human being before the body is "green in death and festering in a shroud." —*Lancet.*